

REMARKS

The claimed invention

The invention includes an in-line expansion tank. As fluid traverses a pipe within the tank, it may pass into and displace a diaphragm disposed outside of the pipe if the fluid pressure is greater than a tank pressure pushing the diaphragm against the pipe. When the fluid pressure decreases, the fluid passes from the diaphragm back into the pipe.

Claim 9 has been amended to include the limitations of claim 15. Applicant submits that no new matter is introduced.

The cited art

Shiery discloses a noise suppressor device for absorbing and dampening the noise of pulsating fluids (Abstract). Forster also discloses a pulsation dampener device.

Rejections under 35 U.S.C. § 102

Claims 9 and 14 stand rejected under 35 U.S.C. 102 in view of Shiery and also in view of Forster. Applicant respectfully submits that both Shiery and Forster fail to disclose a flow through assembly including a tube having two ends, wherein one or both ends has a notch providing fluidic communication between an interior of the tube and an interior of the diaphragm, wherein the notch is open to the end of the tube, as recited in claim 9. Claim 14 depends from claim 9. Both Shiery and Forster disclose the use of blind holes through a wall of a tube to provide fluidic communication between the interior of the tube and the interior of the diaphragm. As a result, Applicant submits that claims 9 and 14 are patentable in view of Shiery and Forster, whether considered separately or together.

Rejections under 35 U.S.C. § 103

Claims 1-8, 10-13, 15-29, and 31 stand rejected under 35 U.S.C. 103 in view of Forster. The Examiner states that “Applicant has not disclosed that having the notches at the end or opened to the end of the tube provides an advantage, is used for a particular purpose, or solves a stated problem.” Applicant respectfully disagrees. The application states, at page 7, lines 15-17, “Because water enters the diaphragm through the slots 20 at one end and leaves through the slots 20 at the other end, water passes through the tank on a FIFO (first-in, first-out) basis in the

direction of flow through the tube 4.” This ensures that, as new water flows into the tank, resident water flows out of the tank rather than stagnating in the tank. This is not a concern of Forster, which only provides a pulsation dampener. In contrast, claim 1, for example, provides a diaphragm expansion tank. With respect to claim 17, Applicant submits that Forster fails to disclose or suggest welding the joints of a tank form a chamber, as recited in the claim. The Examiner states that “One of ordinary skill in the art...would have expected Applicant’s invention to perform equally well with the shell (15) welded to ring piece (14) and an H-shaped end screwed into the ring piece as suggested by Forester (sic).” This suggests that it would be obvious to modify the device of claim 17 to look like Forster’s device. This is the reverse of the modification that Forster would have to suggest to render claim 17 obvious. Applicant submits that the two designs are not interchangeable. There is no indication in Forster that the invention of Forster should be modified not to have a shell welded to a ring piece and an H-shaped end or that it should be modified to have first and second domes joined to form a chamber by a welded joint, as recited by claim 17. Applicant submits that any such modification of Forster can only be the result of impermissible hindsight reconstruction. In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999). Applicant submits that claims 1-8, 10-13, 15-19, and 31 are patentable in view of Forster.

Drawings

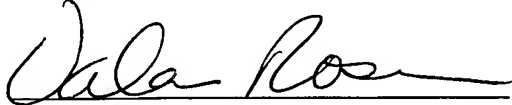
The drawings are objected to for various informalities. As noted above, Figure 1A has been amended to remove reference sign 11. The Examiner also states that the subject matter of claim 5 is not shown in the claims. Applicant respectfully disagrees. The recitations of claim 5 are illustrated in Figures 1 and 2, which show a diaphragm 6 having two ends. As shown, the ends of the diaphragm have a smaller cross-sectional area than a middle portion of the diaphragm, as recited in claim 5. Applicant submits that the figures meet the requirements of 37 C.F.R. §1.84.

Claim Objections

Claims 3 and 14 are objected to for various informalities. Claim 3 has been amended to correct the defects noted by the Examiner. Applicant submits that the amendment to claim 9 renders the objection to claim 14 moot.

A petition for extension of time and the appropriate fee are enclosed herewith. Please charge any fees associated with this filing, or apply any credits, to our Deposit Account No. 03-1721.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Valarie B. Rosen", written over a horizontal line.

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Date: April 27, 2005

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AMENDMENTS TO THE DRAWINGS:

An attached replacement drawing sheet(s) and an annotated sheet(s) showing changes to the drawings are attached to this Response as an Appendix. These replacement sheets comprise amendments to Figure 1A. Specifically, reference sign 11 has been removed from the figure. These amendments correct the informalities noted in the objections to the drawings by the Examiner. Accordingly, Applicants respectfully request that all objections to the drawings be withdrawn.

FIG.1A

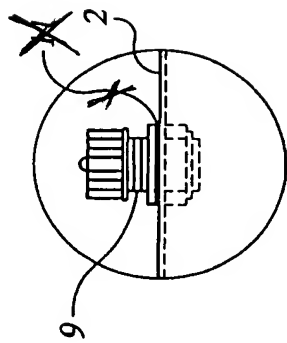


FIG.1

